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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,192	05/31/2001	Mark D. Haller	TRW(TE)5734	2280

7590 01/15/2003  
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EXAMINER

LE, THANH TAM T

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/871,192

Applicant(s)

HALLER, MARK D.

Examiner

Thanh-Tam T. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 6-10, 13-17 and 20 rejected under 35 U.S.C. 102(b) as being anticipated by Tsui et al. (IBM Technical Disclosure Bulletin).

Regarding claims 1, 8, 13 and 20, Tsui et al. disclose a double board arrangement comprising:

- a circuit board (1) having a planar first surface (2) and a planar second surface (3) opposite the first surface;
- a card socket (8 which read on a first component) having short pins (5 which read on a first set of connectors). The first set of connectors engaging a corresponding set of apertures in the first surface of the circuit board; and
- a card socket (8 which read on a second component) having short pins (7 which read on a second set of mechanical one-way connectors). The second set of connectors engaging a corresponding set of apertures in the second surface of the circuit board. The circuit board having a normal axis perpendicular and passing through both the first and second surfaces.

Regarding claims 2-3, 9-10 and 14-17, the first and second sets of connectors are compliant pins.

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Regarding claims 6 and 7, a third component (A, attachment) engaging the first surface and a fourth component (B, attachment) engaging the second surface of the circuit board. The normal axis is not passing through the third and the fourth components.

Regarding claims 1, 8 and 13, Tsui et al. disclose a double board arrangement comprising:

- a circuit board (1) having a planar first surface (2) and a planar second surface (3) opposite the first surface;
- a card socket (C, attachment, which read on a first component) having short pins (5 which read on a first set of connectors). The first set of connectors engaging a corresponding set of apertures in the first surface of the circuit board; and
- a card socket (D, attachment, which read on a second component) having short pins (7 which read on a second set of mechanical one-way connectors). The second set of connectors engaging a corresponding set of apertures in the second surface of the circuit board. The circuit board having a normal axis perpendicular and passing through both the first and second surfaces.

Regarding claims 4, 11 and 18, the first set of connectors are interposed between the second set of connectors.

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***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 12 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Tsui et al. in view of Foy et al. (4,916,457).

Tsui et al. disclose the instant claimed invention as described above except for the first set of connectors are solder pins.

Foy et al., figure 4, disclose a solder pin (23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tsui et al. to have the solder pin as taught by Foy et al. for permanent attach to the circuit board.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Tam T. Le whose telephone number is (703) 306-5711. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (703) 308-2710. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

TL.

January 13, 2003



**LYNN FIELD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800**